

Abstract

Novel DNA fragments encoding novel polypeptide having properties of melanotropic hormone receptors, especially DNA fragments encoding melanocyte stimulating hormone receptors (MSH receptors), as well as polypeptide which are MSH receptors, are disclosed. The use and engineering of melanotropic hormone receptor DNA and polypeptide for production of monoclonal antibodies for diagnostic and therapeutic purposes, as well as the engineering of drugs, cell lines, vectors and DNA for therapeutic and diagnostic purposes are also disclosed. Also disclosed are methods for therapy and diagnosis of malignant melanoma, skin cancer, vitiligo, pyretic condition, inflammatory condition, nociceptive condition, catatonic condition, impaired memory condition, reduced or increased skin tanning, pigmentation condition, epilepsy and nerve damage, using the DNA fragments, polypeptide and antibodies. Methods for selecting substances which interact with the receptors are also disclosed.